

2010

# Working Together for Safe Drinking Water. Drinking Water Construction Project Report. 2010

Maine Center for Disease Control and Prevention

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# Working Together for **SAFE** Drinking Water



## Drinking Water Construction Project Report **2010**

with funding from the Drinking  
Water State Revolving Fund



Maine Center for Disease  
Control and Prevention  
*An Office of the  
Department of Health and Human Services*

Paul R. LePage, Governor

Mary C. Mayhew, Commissioner



INTRODUCTION



Roger L. Crouse, P.E.

Dear Reader,

With \$18.3 million invested in public water system infrastructure projects, 2010 was another successful year for the Drinking Water State Revolving Fund (DWSRF). Projects from Kennebunk to Madawaska were funded to provide improved public health protection.

This annual report is produced to highlight the importance and value of the DWSRF to public water systems in Maine. The ability of municipal public water systems to provide an adequate supply of safe drinking water at a reasonable cost is essential to a strong economy.

Although the core mission of the DWSRF is public health protection, the annual investment of millions of dollars in construction projects has an immediate impact on Maine’s economy.

Through the effective management and implementation of the DWSRF, the dedicated employees of the Maine CDC Drinking Water Program and the Maine Municipal Bond Bank are making a positive difference in the lives of Maine people. Our thanks go out to our many partners who help us to fulfill our mission of “Working Together for Safe Drinking Water.”

Yours for safe drinking water,

Roger L. Crouse, P.E.  
Director, Maine CDC Drinking Water Program

“For E. L.Vining & Son, Inc. the project came along at a perfect time. The State of Maine along with most of the country was experiencing very tough economic times. Through the project we were able to keep employees busy and working for the longevity of the project which for us was the better part of 3 months.”

-Nick Bacon, E.L. Vining & Son, Inc

“That SRF money is the best thing going. Best way to finance by far.”

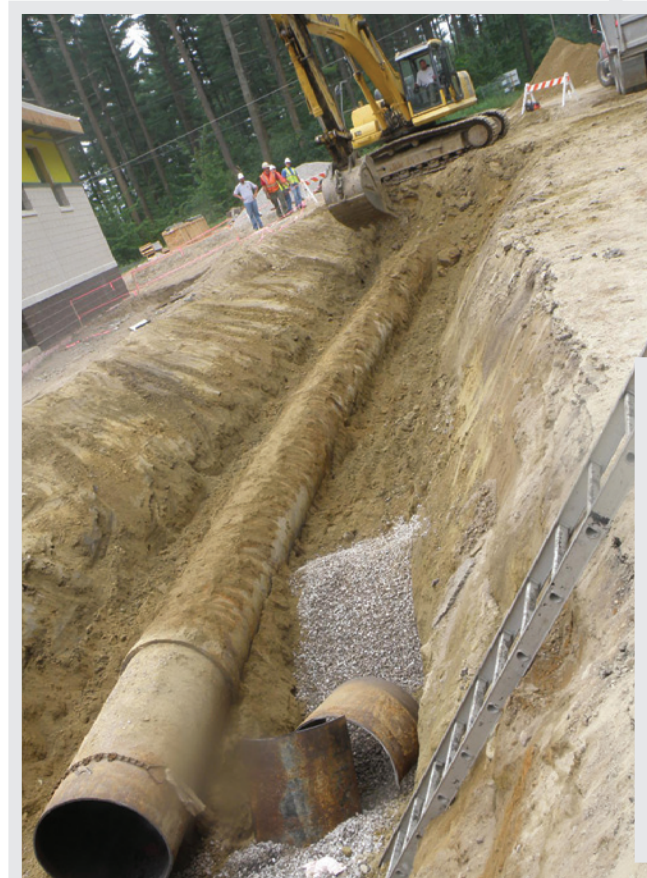
- Frank S. Kearney Sr., Old Town Water District Superintendent

“It is particularly gratifying to work with systems that are in trouble, help them negotiate achievable Administrative Consent Order milestones with realistic timetables, and then get to follow through with improvements that make a real difference and bring them into reliable compliance.”

-Ron Hidu, Woodard & Curran

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ABOUT THE DWSRF

The 1996 Amendments to the Safe Drinking Water Act (SDWA) included allocations for the DWSRF. The DWSRF program is a state operated program to provide loans and other financial assistance for drinking water improvement projects. The SDWA requires that states provide 20 percent matching funds to federal dollars, in order to capitalize the DWSRF program. This means that every one dollar invested by the State of Maine secures five federal dollars. For 2010, Maine invested \$2,714,600, which provided \$13,573,000 in federal funding for Maine drinking water improvement projects.

The DWSRF provides funding to public water systems throughout Maine to improve or replace water system pipes, treatment plants, storage tanks and sources of water to ensure safe drinking water and provide essential public health protection. Funding for drinking water infrastructure improvement projects are available as low interest loans. Disadvantaged Community Water Systems may receive further assistance through principal forgiveness.

A portion of the DWSRF is used to fund non-construction projects that help improve and protect drinking water quality in

Maine. These funding programs include Wellhead Protection Grants, Capacity Development Grants, Very Small System Compliance Loans, System Consolidation Grants, and Land Acquisition Loans. These programs are designed to provide source water protection, technical assistance, system planning assistance, and land acquisition.

The Department of Health and Human Services (DHHS) and the Maine Municipal Bond Bank (MMBB) administer the DWSRF together. The Drinking Water Program is the Lead Administrator and is responsible for project management and technical support, as well as overseeing activities. The MMBB is the Financial Administrator and oversees the loan application process and tracks money to and from the fund.

Since 1997, the DWSRF has provided almost \$168 million to public water systems through low interest loans and grants. Since 1997, Maine has provided \$24.6 million in State Match, to access \$141.8 million in federal grants.

State of Maine Drinking Water State Revolving Fund July 1, 1996 through June 30, 2010

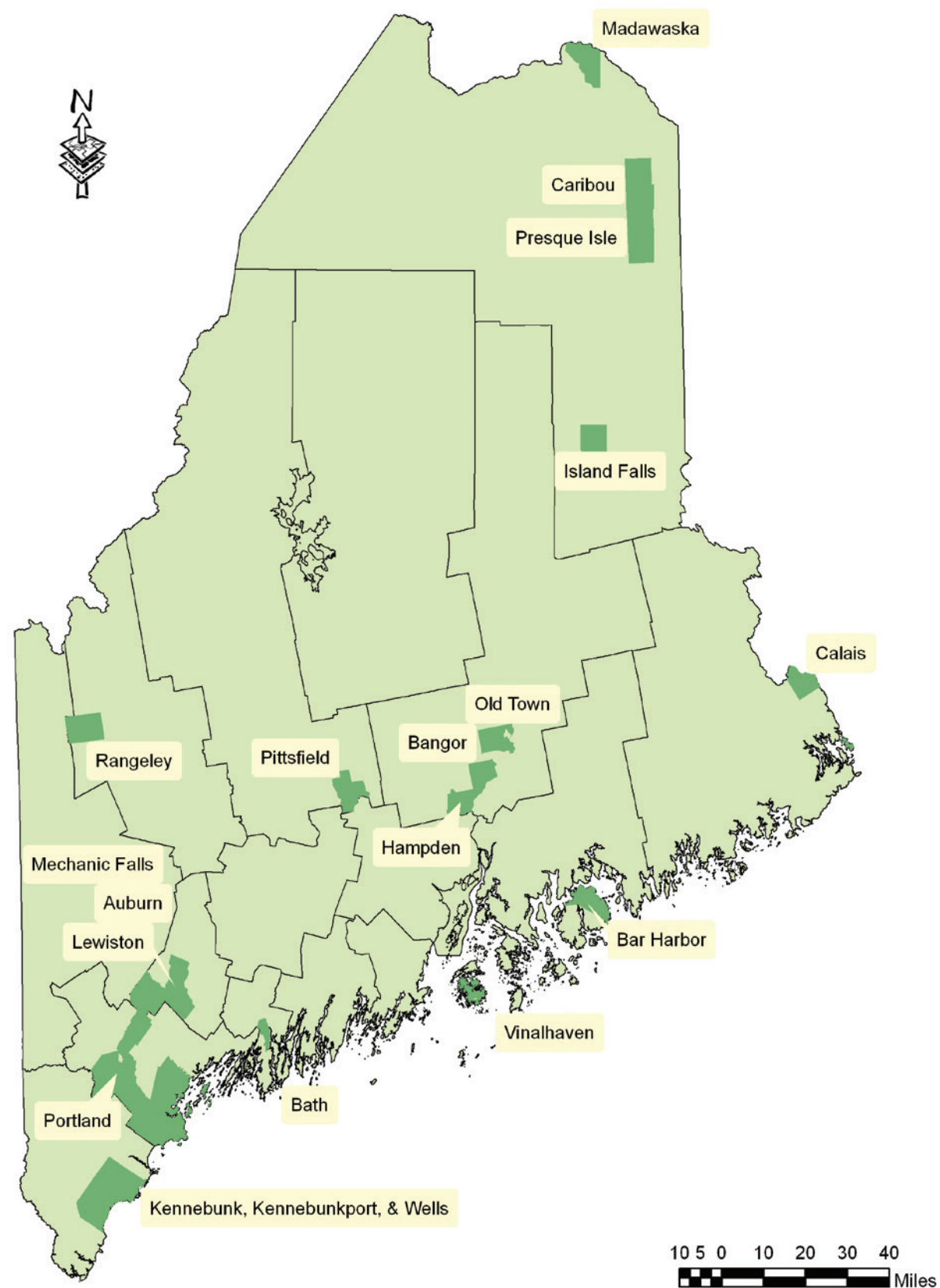
Year	Grant Amount	State Match	Construction Project Amount	Principal Forgiveness	Loan Amount
1997 & 1998	\$19,853,200	\$3,970,640	\$18,139,481	\$2,883,734	\$15,255,747
1999	\$7,463,800	\$1,492,760	\$5,438,281	\$1,868,690	\$3,569,591
2000	\$7,757,000	\$1,551,400	\$3,860,136	\$2,166,101	\$1,694,035
2001	\$7,789,100	\$1,557,820	\$13,139,918	\$3,350,454	\$9,789,464
2002	\$8,052,500	\$1,610,500	\$9,324,062	\$3,968,957	\$5,355,105
2003	\$8,200,000	\$1,800,000	\$1,923,436	\$371,427	\$1,552,009
2004	\$8,004,100	\$1,600,820	\$7,887,889	\$940,069	\$6,947,820
2005	\$8,803,100	\$1,767,168	\$19,844,625	\$3,192,000	\$16,652,625
2006	\$8,228,900	\$1,645,780	\$6,965,122	\$1,749,775	\$5,215,347
2007	\$8,268,800	\$1,653,760	\$9,289,853	\$3,576,600	\$5,713,253
2008	\$8,146,000	\$1,629,200	\$15,343,013	\$1,964,209	\$13,378,804
2009	\$27,646,000	\$1,629,200	\$38,510,273	\$12,783,880	\$25,726,393
2010	\$13,573,000	\$2,714,600	\$18,252,610	\$4,071,900	\$14,180,710
TOTAL	\$141,785,500	\$24,623,648	\$167,918,699	\$42,887,796	\$125,030,903

2010 PROJECTS AT A GLANCE

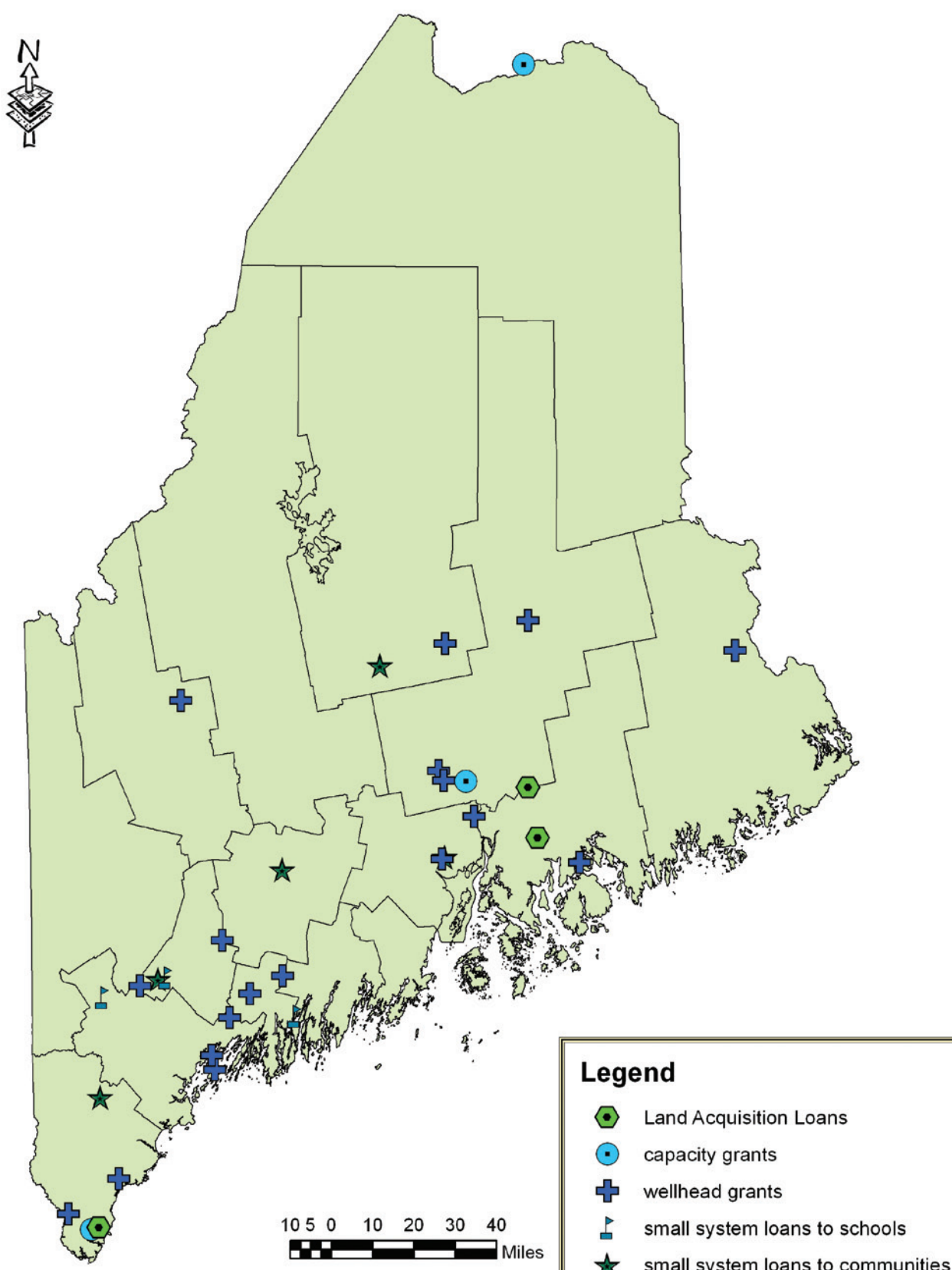
Water System	Towns Served	Description	Amount Requested from DWSRF
Auburn Water District/ Lewiston Water Division	Auburn, Lewiston, Poland	New Chloramination Facility	\$1,000,000
Bangor Water District	Orrington, Hermon, Hampden, Bangor, Eddington, Clifton, Veazie	Design of new UV treatment facility & Replace SCADA system	\$2,192,337
Bath Water District	Brunswick, Woolwich, West Bath, Wiscasset, Bath	Water main replacement	\$409,122
Calais Water Department	Calais	Water main replacement	\$695,000
Caribou Utilities District	Caribou	Water main replacement	\$320,000
Hampden Water District	Hampden	Water main replacement	\$721,650
Island Falls Water Department	Island Falls	Water main replacement and Refinance 1994 loan	\$1,447,450
Kennebunk, Kennebunkport and Wells Water District	Kennebunk, Kennebunkport, Wells	New Transmission main for new source	\$1,315,545
Lewiston Water Division	Lewiston	Water main replacement	\$945,000
Madawaska Water District	Madawaska	Refinance existing loans for WTP upgrade and wells	\$903,000
Mechanic Falls Water Department	Mechanic Falls, Poland	Extension of waterline to consolidate other facilities	\$729,300
Old Town Water District	Old Town, Bradley	Water main replacement	\$524,790
Passamaquoddy Water District	Eastport, Perry	Water main replacement Lincoln, Pleasant, Franklin, Dawson Streets	\$1,043,350
Pittsfield Water Department	Pittsfield	Replacement of failed river crossing	\$508,500
Portland Water District	Falmouth, Raymond, Scarborough, South Portland, Standish, Cape Elizabeth, Cumberland, Gorham, Windham, Westbrook, Portland	Water main replacement	\$950,000
Presque Isle Water District	Presque Isle	Water main replacement	\$450,000
Rangeley Water District	Dallas Plt, Rangeley, Rangeley Plt, Sandy River Plt	Water main replacement & Creation of loops in system to eliminate dead ends	\$735,630
Town of Bar Harbor Water Division	Bar Harbor	Replace pumps and piping	\$323,850
Vinalhaven Water District	Vinalhaven	Installation of UV treatment	\$351,985



Map of Public Water Systems Receiving 2010 DWSRF Construction Funding



Map of Public Water Systems Receiving 2010 DWSRF Non-Construction Funding





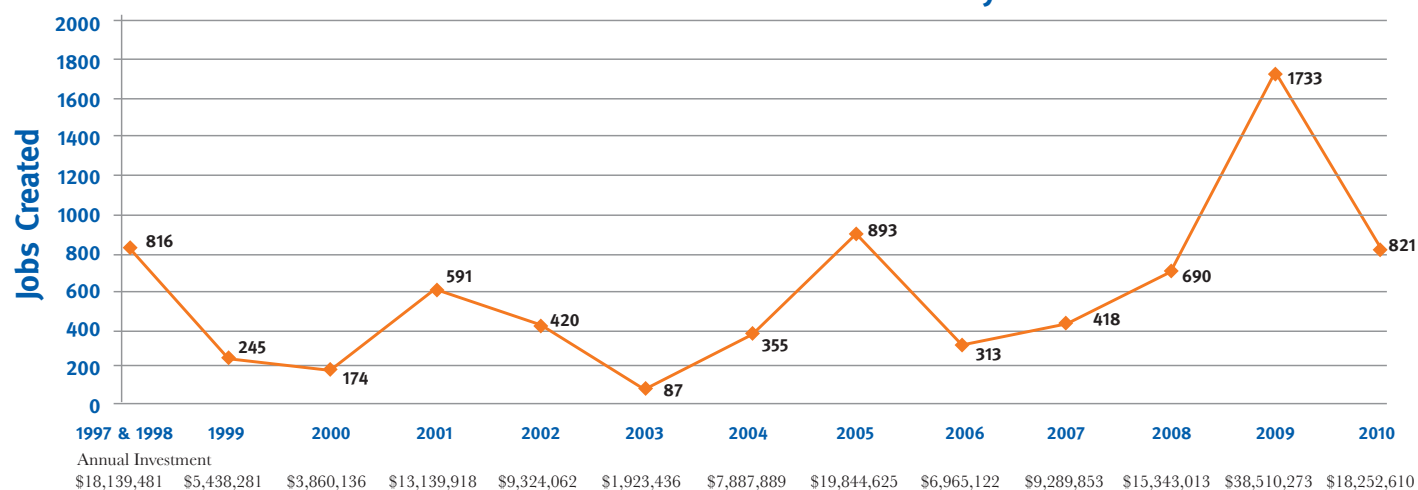
## JOB CREATION

Investing in Maine's drinking water infrastructure not only provides essential public health improvements to our drinking water, but also creates jobs. According to a report prepared by the American Society of Civil Engineers (ASCE) titled "Maine's Infrastructure Report Card" (December 2008), "investing in our infrastructure will create jobs and stimulate the economy. Infrastructure investment provides long lasting benefits to our communities. Every billion dollars in infrastructure investment generated over 45,000 jobs". In the

2010 DWSRF, Maine had roughly \$18,252,610 of construction projects using \$15,582,319 of DWSRF loans. Therefore, based on the 2008 ASCE Infrastructure Report Card job creation estimate, the investment in 2010 DWSRF projects represents **821 jobs created**.

The Graph below depicts estimated job creation based on 45 jobs created per million dollars invested in Maine's drinking water infrastructure through the DWSRF since 1997.

**DWSRF Infrastructure Investment History**



## NEED FOR DRINKING WATER INFRASTRUCTURE IMPROVEMENTS

According to a report prepared by ASCE titled "Maine's Infrastructure Report Card" (December 2008), Maine's municipal drinking water infrastructure received a grade of C. A grade of C is described as "mediocre - condition and capacity are adequate; some risks and consequences of failure which need to be weighed; maintenance is being deferred due to lack of funding." According to the same ASCE report, Maine's public drinking water infrastructure needs an investment of \$832 million over the next 20 years. That is over \$41 million per year current dollars. Current funding of approximately \$15 million per year provides for one-third of needs.

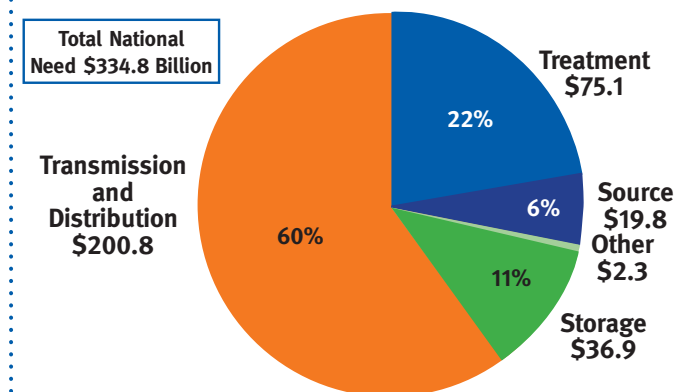
On June 18, 2008, the Bangor Daily News reported that "Maine's economic development has been slowed because of an increasing backlog of drinking water projects and needed wastewater treatment upgrades."

The fifth EPA Drinking Water Infrastructure Needs Survey and Assessment will be conducted in 2011. Twenty-five public water systems in Maine have been selected by EPA to provide specific system needs for the next twenty years. Transmission and distribution projects represent the largest category of need in the 2007 survey and the 2011 information is likely to reflect the same. "The cornerstone of the survey's credibility lies in gaining estimates of investment needs from those most knowledgeable and responsible for that infrastructure—public water supply operators and owners," said Charles Job, chief of USEPA's Infrastructure Program Branch in the Office of Ground Water and Drinking Water.

Safe and abundant water is critical to human health, sustainable development and economic growth. More than two-thirds of Maine residents are served by 150 public community drinking water systems. According to ASCE, the national gap in funding versus need is more than \$11 billion.

The infrastructure components that make up public water systems require continued and adequate funding. Storage, treatment and distribution facilities require maintenance, replacement and upgrades to meet current drinking water standards. The greatest need may lie out of sight in underground lines, many of which are more than 100 years old.

**Total 20-Year Need by Project Type**  
(in billions of January 2007 dollars)



Note: Numbers may not total due to rounding.

Source: U.S. EPA's "Drinking Water Infrastructure Needs Survey and Assessment- Fourth Report to Congress" February 2009, EPA-816-R-09-001

In 2007, the U.S. Environmental Protection Agency (EPA) conducted its fourth Drinking Water Infrastructure Needs Survey and Assessment (DWINS or Assessment). The purpose of the Assessment is to document the 20-year capital investment needs of public water systems that are eligible to receive DWSRF monies — approximately 52,000 community water systems and 21,400 not-for-profit non-community water systems. The survey found that the total nationwide infrastructure need is \$334.8 billion for the 20-year period from January 2007 through December 2026. The pie chart above identifies the need by project type.



Minerals can build up in old water mains, leading to pressure and bacteriological problems. Pipe can be replaced, or it can be rehabilitated using a "pig" to scour the inside of the pipe and remove the deposits



## FUTURE OF THE DWSRF

The future of the DWSRF looks bright. Annually, approximately \$5 million "revolves" back into the DWSRF from loan and interest repayments. This number will continue to grow each year.

Historically, our annual grant from Congress has been around \$8 million. In 2009, we received an extra \$19.5 million from the American Recovery and Reinvestment Act (ARRA). In 2010, Congress increased our allocation to \$13.5 million.

The picture for 2011 and beyond is somewhat unclear. President Obama has requested DWSRF funding to be closer to the \$13.5 million level, rather than the historical \$8 million level. However, the significant challenges faced by Congress associated with reducing the national debt will likely result in annual allotments between \$8 and \$9 million.

Maine's ability to access the federal funds will continue to rely upon our ability to secure the necessary 20 percent State

Match. This State Match has historically come from General Obligation Bonds. Maine CDC Drinking Water Program staff, in consultation with the Maine Municipal Bond Bank, has been carefully evaluating the impact on the DWSRF, if alternative methods are used to secure the State Match. The most attractive alternative is using a Revenue Bond issued by the Maine Municipal Bond Bank. The interest payments on DWSRF loans, rather than taxpayers, would be used to repay the revenue bond.

Although this method cannot be used exclusively at this time, it does provide a source of State Match with greater flexibility for the Program and does not add to the General Fund debt.

We will continue to work with policy makers to ensure the DWSRF continues to operate as a viable public health protection program

## 2010 DWSRF Construction Projects

### Caribou Utilities District

**Towns Served:** Caribou

**DWSRF Funded Amount:** \$320,000

**Engineer:** In-House

**Contractor:** Larry's Construction

This project is for the replacement of 1,910 feet of 6-inch cast iron unlined pipe with new 8 and 12-inch ductile iron cement line water mains. This project will be constructed in conjunction, with a MDOT road resurfacing project in 2010.



“The project was successful in removing a constriction in the water main and equalizing pressures on the two low service tanks in town. We were also able to remove a dead-end line, thereby improving water quality to our customers.”

—Alan Hitchcock, Superintendent

## Auburn Water District/Lewiston Water Division

**Towns Served:** Auburn, Lewiston, Poland

**DWSRF Funded Amount:** \$1,000,000

**Engineer:** Wright-Pierce

**Contractor:**

This project is for the design and construction of a shared disinfection system using chloramines (chlorine and ammonia) for Auburn and Lewiston. This project will enhance water quality by reducing levels of disinfection byproducts generated by the current chlorine only disinfection system.

## Bath Water District

**Towns Served:** Brunswick, Woolwich, West Bath, Wiscasset, Bath

**DWSRF Funded Amount:** \$409,122

**Engineer:** Wright-Pierce

**Contractor:** H.C. Crooker, Nitram Excavation

Bath Water District's 2010 project involves the replacement of approximately 2,500 feet of aging 6 and 8-inch cast iron unlined water mains with a new 12-inch cement lined ductile iron water main. The work will be completed in conjunction with a municipal street improvement project that includes storm drain and sanitary sewer infrastructure upgrades.



## Calais Water Department

**Towns Served:** Calais

**DWSRF Funded Amount:** \$695,000

**Engineer:** Olver Associates

**Contractor:** T. Buck Construction

Calais Water Department is undertaking a project to replace approximately 2,600 feet of antiquated 2-inch galvanized water main on Germain, Spring, Beech, and Brook Streets as well as Midland Avenue with 8-inch water main. This project was identified in the City's Water Comprehensive Improvement Plan as an immediate need to address quality, supply and pressure issues.



Bangor Water District

**Towns Served:** Orrington, Hermon, Hampden, Bangor, Eddington, Clifton, Veazie

**DWSRF Funded Amount:** \$2,192,337

**Engineer:** Black & Veatch

**Contractor:**

Previously, using 2009 DWSRF/ARRA funding, Bangor Water District completed a Conceptual Study for complying with the treatment requirements under the Long Term 2 Enhanced Surface Water Treatment Rule. This study was done to provide further protection against disease-causing microorganisms and contaminants that can form during drinking water treatment. The 2010 project includes the design phase for the construction of a Ultra-Violet Light (UV) disinfection treatment facility at Floods Pond. Bangor will also complete upgrades, renovations, and modifications to the Johnson Pumping Station, and extension of one of the existing intakes. Bangor is also undertaking a second project to replace an existing 25-year-old Supervisory Control and Data Acquisition (SCADA) system used to monitor, control and operate water pumping and distribution system, serving 30,000 people in the grater Bangor area.

Vinalhaven Water District

**Towns Served:** Vinalhaven

**DWSRF Funded Amount:** \$351,985

**Engineer:** Woodard & Curran

**Contractor:** Viking, Inc

This project will address elevated levels of disinfection byproducts (DBPs) and include improvements necessary for the system to comply with the Stage 2 Disinfectants/ Disinfection Byproducts Rule. The project includes the installation of an Ultra-Violet Light (UV) disinfection treatment system for primary disinfection and cryptosporidium inactivation under the Long Term 2 Enhanced Surface Water Treatment Rule requirements. The new treatment system will provide protection from disease causing microorganisms in the source water and contaminants that can form during drinking water treatment. The project also includes modifications to an existing chemical feed and Supervisory Control and Data Acquisition (SCADA) instrumentation systems, the installation of a 12-inch ductile iron pipe loop contact system and a passive water storage tank mixing system.



“The DWP recognition of the existing services contract between the Vinalhaven Water District and Aqua Maine and the ability to use this existing contract to construct the improvements on the island generated significant savings and made the construction and start up very smooth. That went really well given the logistics of working on the island.

- Rick Knowlton for Vinalhaven Water District

Pittsfield Water Department

**Towns Served:** Pittsfield

**DWSRF Funded Amount:** \$508,500

**Engineer:** Olver Associates

**Contractor:**

Pittsfield Water Department is undertaking a project to replace 500 feet of 8-inch water main and a river crossing along Waverly Avenue. The current water main has been placed out of service due to damage and the loss of the main has resulted in pressure, reliability, and quality of service problems for water customers.

Hampden Water District

**Towns Served:** Hampden

**DWSRF Funded Amount:** \$721,650

**Engineer:** Woodard & Curran

**Contractor:** S.H. Bridges

Hampden Water District's 2010 DWSRF funded project is to replace approximately 2,800 feet of 70-year-old 6-inch cast iron unlined water main with a new 12-inch ductile iron cement lined water main.

“Securing funding for this project helped us to follow through with this long-term client in implementing their plan.”

-Ron Hidu, Woodard & Curran



Portland Water District

**Towns Served:** Falmouth, Raymond, Scarborough, South Portland, Cape Elizabeth, Cumberland, Gorham, Windham, Westbrook, Portland

**DWSRF Funded Amount:** \$950,000

**Engineer:** In-House

**Contractor:** Dearborn Brothers, Lionel Plante Associates

Multiple projects are being completed within the Portland Water District service area to replace more than 6,000 feet of old water mains in various locations. The projects include water main replacements on portions of Forest Avenue and Read, Bell, Carlyle, Canco, and Walton Streets in conjunction with storm drain and sewer line separation projects. In addition, Portland Water District will replace a water main on Willow Street on Peaks Island to address leaks and low service pressure issues.



Town of Bar Harbor Water Division

**Towns Served:** Bar Harbor  
**DWSRF Funded Amount:** \$323,850  
**Engineer:** Woodard & Curran  
**Contractor:**

This project will replace antiquated pumps and pumping equipment with smaller more energy efficient variable speed pumps as part of an integrated pump station upgrade.

Island Falls Water Department

**Towns Served:** Island Falls  
**DWSRF Funded Amount:** \$1,447,450  
**Engineer:** A.E. Hodsdon  
**Contractor:** Lou Silver, Inc

This project involves the replacement of 6,800 feet of 100-year-old cast iron unlined lead-joint distribution mains. The project also includes new house service connections and fire hydrants. Island Falls will also use 2010 DWSRF funds to refinance a 1994-issued loan that was used to replace an existing surface water supply with a new well, pump station, and reservoir to be in compliance with the Safe Drinking Water Act.



Kennebunk, Kennebunkport and Wells Water District

**Towns Served:** Kennebunk, Kennebunkport, Wells  
**DWSRF Funded Amount:** \$1,315,545  
**Engineer:** In-House  
**Contractor:** In-House

Kennebunk, Kennebunkport and Wells Water District is undertaking a project to install approximately 8,500 feet of new 16-inch diameter transmission main along Route 35 (Alewife Road) in Kennebunk that is required to connect to a new high quality water ground water source. This project will be completed concurrently with a proposed road reconstruction project by MDOT.

Passamaquoddy Water District

**Towns Served:** Eastport, Perry  
**DWSRF Funded Amount:** \$1,043,350  
**Engineer:** A.E. Hodsdon  
**Contractor:** S.H. Bridges

This project involves replacing over 5,000 feet of aging 100-year-old distribution mains at risk of contamination. The project includes new distribution mains, fire hydrants and house services. This project will eliminate small diameter unlined cast iron and galvanized iron water mains and will also eliminate the need for running water to act as “bleeders” during the winter months to prevent freezing due to shallow water mains.



Old Town Water District

**Towns Served:** Old Town, Bradley  
**DWSRF Funded Amount:** \$524,790  
**Engineer:** A.E. Hodsdon  
**Contractor:** S.E. MacMillan

This project is for the replacement of aging water mains at risk of causing contamination within the water system. The project replaces 3,800 feet of 8-inch cast iron unlined water main with new 12-inch ductile iron cement lines water mains.



“The biggest benefit to my customers is that for the first time in the last 5 years, there has been no water service outage to the town of Bradley all winter long. Not one main break. Not one boil order. And people have actually mentioned that fact. I think some customers were keeping 5 gallon pails handy in case they had to lug from the river. It was getting that bad. They are all happy now that the dust has settled.”

-Frank S. Kearney Sr., Superintendent



## Presque Isle Water District

**Towns Served:** Presque Isle

**DWSRF Funded Amount:** \$450,000

**Engineer:** Wright-Pierce, Woodard & Curran

**Contractor:** T. Buck Construction

Presque Isle Water District is undertaking a project to replace a water main on Parsons Street. The project will replace old and obsolete existing parallel 6-inch and 8-inch water mains on Parsons Street with 1,300 feet of 12-inch main between Park Street and State Street. The work also includes the replacement of 600 feet of water service lines.



“The project improved the reliability of the water system by replacing mains that were prone to breaks and service interruptions. The project improved sewer system reliability by replacing old vitrified clay mains, and it improved accessibility by eliminating sewer mains that were located on easements over private property.”

- Steve Freeman, Superintendent

“This project saw a number of municipal entities come together to smoothly and successfully complete a project on one of the busiest streets of Presque Isle. The Presque Isle Sewer District, the Presque Isle Water District and the City of Presque Isle worked collectively to replace aging infrastructure and rehabilitate a deteriorating section of roadway while minimizing disruption to the travelling public. The strategy of the City and the Districts to pool resources to replace all utilities at once, detour traffic, and expand the amount of paving that would typically be required for a utility project resulted in a quality final product that was finished on schedule and within the construction budget.”

-Nathan McLaughlin, Woodard & Curran

## Lewiston Water Division

**Towns Served:** Lewiston

**DWSRF Funded Amount:** \$945,000

**Engineer:** In-House

**Contractor:**

This project is for large and small diameter distribution system improvements that will enhance and maintain the aging public water infrastructure and improve water quality, increase water pressure and flows to customers and reduce pumping costs. The work includes two contracts to 1) replace approximately 600 linear feet of 16-inch and approximately 5,000 linear feet of 6-inch cast iron water distribution mains, and 2) clean and cement line approximately 1,000 linear feet of 16-inch, 3,300 linear feet of 12-inch, 525 linear feet of 10-inch, 1,500 linear feet of 8-inch and 6,200 linear feet of 6-inch cast iron distribution mains.

## Rangeley Water District

**Towns Served:** Dallas Plt, Rangeley, Rangeley Plt, Sandy River Plt

**DWSRF Funded Amount:** \$735,630

**Engineer:** A.E. Hodsdon

**Contractor:** E.L. Vining, Inc

Rangeley Water District will complete multiple projects to replace aging water mains. The work involves the replacement of more than 4,500 feet of aging water mains. This project will eliminate the need for running water to act as “bleeders” during the winter months to prevent freezing due to shallow water mains. The project will also create loops and improve water quality by eliminating dead ends within the water system. All but 80 feet of the new water main is 8-inch pipe. With leftover money, Rangeley may add two loops to the project (Lake House Road to Marble Station and Sunset Road to Caddy Drive).



“The project seemed to coincide very well with our seasonal schedule and all issues that arose were dealt with quickly and effectively. The knowledge level and expertise from both parties was very useful on the project. The representative from the Drinking Water Program was involved and very well in tune with what was going on at the project level.”

-Nick Bacon, E.L. Vining & Son, Inc.

## Madawaska Water District

**Towns Served:** Madawaska

**DWSRF Funded Amount:** \$903,000

**Engineer:** n/a

**Contractor:** n/a

Madawaska Water District is refinancing an existing 2009 loan for a water treatment plant upgrade and new wells. This project provides the District with a lower interest rate, allowing a reduction in the term of the loan from 40 years to 30 years.



## 2009 DWSRF Construction Projects Completed in 2010

## St. Francis Water District

**Towns Served:** St. Francis

**DWSRF Funded Amount:** \$349,423

**Engineer:** Woodward & Curran

**Contractor:**

St. Francis Water District completed their 2009 project to switch their drinking water source from surface water to ground water in order to resolve disinfection byproduct violations related to their surface water source. The project included installation of raw water transmission mains, a pump house, and a chlorination system.

Aqua Maine Inc.  
Camden & Rockland Div

**Towns Served:** Camden, Owls Head,  
Rockland, Rockport,  
Warren, Thomaston

**DWSRF Funded Amount:** \$3,621,868

**Engineer:** Wright-Pierce

**Contractor:** Caldwell, Apex

The Camden & Rockland Division of Aqua Maine completed their 2009 project to design and construct a membrane filtration treatment system at the Mirror Lake disinfection facility in Rockport. The membrane filtration treatment enabled Aqua Maine to comply with new regulations concerning specific treatment for Cryptosporidium, a chlorine-resistant microbiological pathogen, and new restrictions on disinfection byproducts within the distribution system. The membrane filtration treatment also provides additional public health protection and improved aesthetic water quality. The additional treatment improved facility redundancy and reliability and ensures that system demands are met during emergencies.

## Bangor Water District

**Towns Served:** Orrington, Bangor, Hermon,  
Hampden, Eddington, Clifton, Veazie

**DWSRF Funded Amount:** \$1,900,290

**Engineer:** Wright-Pierce

**Contractor:** Pre-Load Construction

Bangor Water District completed their 2009 project to build a new 3.8 million gallon wire-wound, pre-stressed concrete drinking water storage tank. The new tank contains a mixing system to improve water quality within the tank. Bangor is now utilizing "leftover funding" from the 2009 project to build a new control building and make some modifications to improve the performance of the new mixing system.



## Madawaska Water District

**Towns Served:** Madawaska

**DWSRF Funded Amount:** \$313,900

**Engineer:** Wright-Pierce

**Contractor:** Penta Corporation

Madawaska Water District completed their 2009 project to replace the existing, undersized booster station pumping equipment on 11th Avenue. The new equipment has improved water pressure and system reliability.

“We now have a very reliable booster system that is providing steady water pressure to approximately 150 homes, an elementary school, and two assisted living facilities. We are very pleased with the project and its performance.”

- Don Chasse, Superintendent

Auburn Water District/  
Lewiston Water Division

**Towns Served:** Auburn, Lewiston, Poland

**DWSRF Funded Amount:** \$7,991,800

**Engineer:** CDM

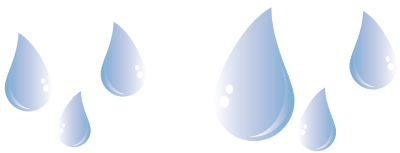
**Contractor:** CDM

The 2009 joint venture between Auburn Water District and Lewiston Water Division to design and construct an Ultra-Violet (UV) Light Treatment Disinfection System at Lake Auburn, the drinking water source for both Auburn and Lewiston, has been completed. The project enabled both water systems to meet requirements of the Long Term 2 Enhanced Surface Water Treatment Rule and improve the drinking water quality for Auburn and Lewiston. In addition, the UV Treatment System provides additional protection from disease-causing microorganisms and contaminants that can form during drinking water treatment.





2010 DWSRF NON-CONSTRUCTION PROJECTS



Capacity Development Grants

Capacity Development Grants provide assistance to public waters systems for the preparation of documents that will assist them in the maintenance or enhancement of water quality, by identifying possible improvements in systems’ technical, financial and managerial operations (capacity development). Water systems can receive grants for 50% of the document cost, up to a maximum grant amount of \$10,000. Documents that are created with these funds include: Comprehensive System Facility Plans, Capital Improvement Plans, System Hydraulic Model Reports, Management Review Reports, System Vulnerability Assessments, Emergency Response Plans, Comprehensive System Operations and Maintenance Manuals, Energy Audits, Asset Management Plans, and other professionally created documents that the DWP determines can improve system viability. A total of \$200,000 was set-aside to fund the 2010 Capacity Development Grant Program.

2010 Capacity Development Grant Projects

Water System	Proposed Use of Grant Funds	Grant Amount
Kittery Water District	Water System Master Plan Update	\$10,000
Fort Kent Water Dept.	Water System Master Plan	\$10,000
Hampden Water District	Comprehensive System Facilities Plan Update	\$9,965

System Consolidation Grants

Water System Consolidation Grants provide partial funding to water systems for the purpose of consolidation with another water system. The public water system applying for consolidation must have a technical, managerial or financial capacity issue that will be addressed by the consolidation with the more viable public water system. The more viable, receiving public water system must not have technical, managerial or financial capacity issues, and the consolidation cannot result in system capacity issues. The Consolidation Grant funds up to 50 percent of the cost of the water system consolidation for For-Profit facilities and up to 75 percent of the cost of the water system consolidation for Not-for-Profit facilities, up to a maximum of a \$100,000 reimbursement.

2010 Water System Consolidation Grants

Public Water System Name (receiving funds)	Town	Public Water System Connecting To:	Reason for Consolidation	Projected Grant Amount
MSAD 09, Mt. Blue HS	Farmington	Farmington Village Corp	Running out of water	\$100,000
CMP Farmington	Farmington	Farmington Village Corp	Chronic Total Coliform	\$100,000
Hebron Heights	Monson	Monson Utilities District	Arsenic Issues	\$100,000
Poland Municipal Complex	Poland	Mechanic Falls Water Dept.	Inadequate water supply volume for multiple buildings	\$100,000
Circle of Friends	Presque Isle	Presque Isle Water District	MTBE treatment required	\$16,527
West Bethel Water System	West Bethel	Bethel Water District	Secondary Contaminants	\$100,000
Phil’s Supervariety & Grill	Monmouth	Winthrop Utilities District	Significantly short setback to Underground Storage Tanks	\$3,042.50

Wellhead Protection Grants

The Wellhead Protection Grant Program awards grants to community and non-profit, non-community public water systems for projects that will help to protect their groundwater source from contamination. Specifically, grants are awarded for projects that clearly reduce the likelihood of contamination occurring in the Source Water Protection area by existing or future activities. Grants are awarded up to \$5,000 per project, with a few \$10,000 grant awards available, depending on the scope of the project. Projects that demonstrate a significant commitment to ongoing source water protection are considered for a higher grant award amount of up to \$10,000. Examples of projects eligible for Wellhead Protection Grants include but are not limited to: assistance in the replacement of oil storage tanks in the source protection area, subsidizing the removal of septic systems from the source protection area, establishing or enabling a source monitoring program, removing hazardous chemicals from the source protection area, developing or implementing drinking water education programs, establishing local protective ordinances or legal agreements in the source protection area, and many other types of projects that aim to reduce contamination of the wellhead protection area.

2010 Wellhead Protection Grant Projects

PWS Name	PWS Location	Project Description	Grant Amount Awarded
Agassiz Village	Poland	Raise wellhead above grade	\$2,200
Belfast Water District	Belfast	Replace single wall oil tanks in wellhead protection area with double walled tanks	\$4,500
Bowdoinham Water District	Bowdoinham	Stabilize area around well and install fencing	\$5,000
Chebeague Island School	Chebeague Island	Raise well casing out of vault	\$5,000
Cold Spring Water Company	Lamoine	Collaborate with the Lamoine Conservation Commission, The Mitchell Center, and the Lamoine School to develop a community-wide groundwater monitoring program through GET WET!	\$4,590
Duck-A-Way on Casco Bay	Freeport	Replace single wall oil tanks in wellhead protection area with double walled tanks	\$5,000
Grandeur Mobile Home Estate	Carmel	Replace single wall oil tanks in wellhead protection area with double walled tanks	\$5,000
Kennebunk, Kennebunkport and Wells WD	Kennebunk	Install video surveillance system for Harriseckett Road Well Site and Merriland River well site	\$5,000
Kingfield Water District	Kingfield	Fill in an area just behind riprap project within wellhead zone 1 that is currently subject to flooding	\$4,700
Lincoln Water District	Lincoln Water	Overhaul of the existing 1988 wellhead protection zoning maps and land use ordinance within the GW aquifer and water recharge area	\$10,000
Milo Water District	Milo	Investigate and sample existing wells near old landfill and new well site to characterize	\$1,500
Princeton Water District	Princeton	Print and mail 1,000 copies of MRWA’s “Safe Homes” booklet to customers and residents within 2,500 feet of wellhead	\$1,000
Richmond Utilities District	Richmond	Install fencing around new well	\$2,500
South Berwick WD	South Berwick	Inventory residential petroleum storage tanks in the WHP area and participate in/support Salmon Falls Watershed Collaborative	\$3,980
South Slope Estates	Carmel	Replace single wall oil tanks in wellhead protection area with double walled tanks	\$5,000
Springbrook Mobile Home Park	Wales	Replace single wall oil tanks in wellhead protection area with double walled tanks	\$4,920
Sugarloaf Water Association	Carrabassett Valley	Install solar backup power to sustain security camera and communication functions during outages and install wireless Ethernet bridges to replace failing copper lines	\$5,000
Winterport Water District	Winterport	Purchase Source Water Protection Wellhead Protection signage and create Source Water Protection informational brochures	\$3,200
Wood Pond Village	Brunswick	Install concrete slab around well and seal casing to it to protect immediate area around well from contamination	\$3,000



Very Small System Compliance Loans

The DWSRF Very Small System Compliance Loan Program was new in 2010. This program is directed at very small water systems including all community systems (except those regulated by the Public Utilities Commission) with a population of 100 or less, and all not-for-profit, non-transient, non-community water systems. Examples include: mobile home parks, apartment buildings, nursing homes, and schools.

This loan program provides 100 percent principal forgiveness (up to \$50,000) for water treatment improvements required to achieve compliance with a current or future standard of the Safe Drinking Water Act, excluding the Total Coliform Rule. Examples of eligible projects include, but are not limited to, treatment systems to resolve compliance issues with Lead, Copper, Radon, Arsenic, or Antimony levels.

As of March 1, 2011, nine applications serving a total estimated population of 1,247 users have been received and approved for funding. A total of \$210,206 was allocated to install drinking water treatment at these locations, resulting in an average per user program cost of \$168 per customer.

Two public water systems have completed installation of water treatment systems. Covered Bridge Apartments in Guilford completed installation of an arsenic treatment system and Snow Pond Residential Care Center in Sidney also completed the installation of an arsenic removal treatment system.

2010 DWSRF Very Small System Compliance Loans

System Name	Estimated Cost	Compliance Issue
Tanglewood MHP	\$50,000	Arsenic
Howards MHP	\$50,000	Radon/Uranium
Snow Pond Residential Care Center	\$1,990	Arsenic
Lake Region High School MSAD 61	\$41,100	Radon/Uranium
Covered Bridge Apartments (Guilford)	\$7,117	Arsenic
Chewonki Foundation, Well # 3	\$20,000	Radon & Radium
Chewonki Foundation, Well # 1	\$10,000	Radon
Northern Spring Park	\$20,000	Gross Alpha, Uranium and Radon
Poland Spring Academy	\$9,999	Arsenic and Uranium.

Land Acquisition Loans

The Land Acquisition Loan Program provides low interest loans to community and non-profit non-community public water systems for the purchase or legal control of land in drinking water source protection areas. Land acquisition is a key component of safe and secure drinking water and the protection of public health. Shoreline and direct watershed land use and development have a major impact on the quality of water available to a water system, and control of those land uses is an extremely cost-effective way of managing future water treatment cost.

The 1996 Amendments to the federal Safe Drinking Water Act stress the importance of preventing drinking water contamination through source water protection and water system management. In Source Water Protection: Best Management Practices and Other Measures for Protecting Drinking Water Supplies, EPA notes that “the best way to control activities within sensitive areas is to purchase land and/or development rights to that land.”

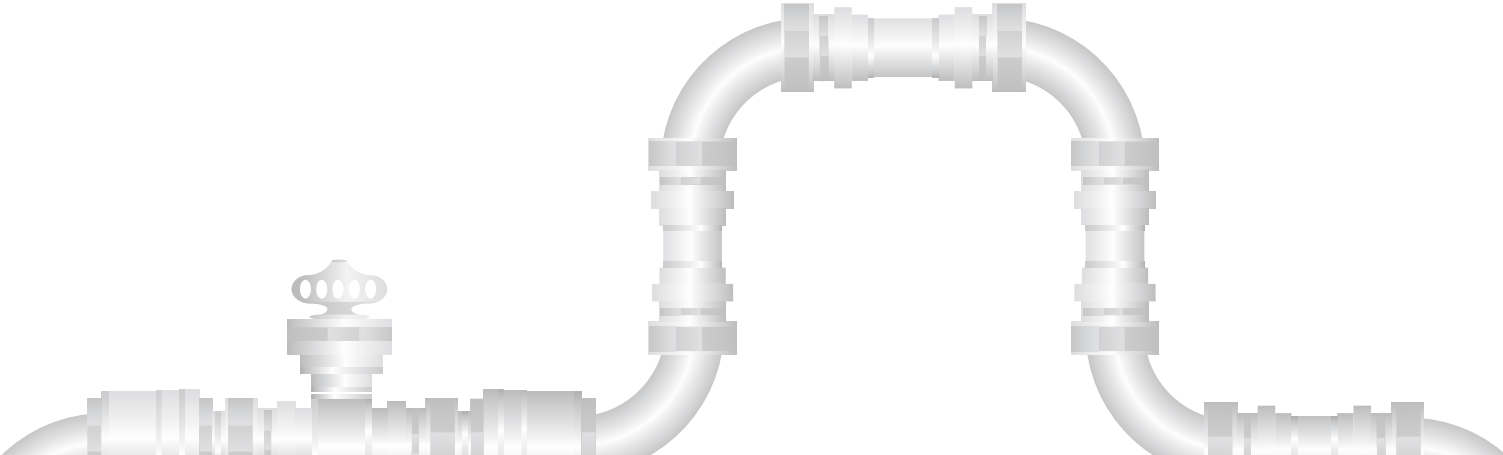
2010 Land Acquisition Loans

PWS Name	Land Acquisition Description	Loan Amount
Ellsworth Water Department	Purchase of conservation easement on 1,196 acres within the Branch Lake watershed. The 1,196 acre parcel of land spans approximately three miles of Branch Lake, the drinking water source for Ellsworth Water Department, and is adjacent to the existing water treatment facility on Branch Lake.	\$1,515,000
Brewer Water Department	Purchase of a conservation easement on 510+ acres within the Hatcase Pond watershed. The 510+ acre parcel of land is located immediately around Hatcase Pond in Dedham, Maine, the drinking water source for Brewer Water Department.	\$735,000
York Water District	Purchase of a parcel of land within the Chase’s Pond watershed that is adjacent to a major stream that flows into Chase’s Pond, the drinking water source for York Water District.	\$50,000

Ellsworth Water Department Receives EPA 2010 DWSRF Award for Land Acquisition Efforts

At the annual State Revolving Loan Workshop held in Kansas City, Missouri on November 15, 2010, the U.S. Environmental Protection Agency announced the recipient of the 2010 DWSRF Award to be the City of Ellsworth, Maine Water Department. The 2010 award recognizes those recipients whose SRF projects further the goal of clean and safe water through exceptional planning, management, and finance.

In 2010, the City of Ellsworth concluded a 3-year effort to acquire a land purchase/conservation easement on nearly 1,200 acres of land, with over 3 miles of shoreline on Branch Lake, to protect the public water supply source for the citizens of the City of Ellsworth. A \$1,515,000 DWSRF loan to the City of Ellsworth Water Department provided a significant portion of the acquisition cost. The collaborative effort with the City of Ellsworth included a number of organizations including: Land for Maine’s Future, Trust for Public Lands, Maine Department of Conservation, Forest Society of Maine, and the Frenchman Bay Conservancy.







## Department of Health and Human Services

*Maine People Living  
Safe, Healthy and Productive Lives*

*Paul R. LePage, Governor*

*Mary C. Mayhew, Commissioner*

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